

TITLE OF THE INVENTION

VIRAL AMPLIFICATION OF RECOMBINANT MESSENGER RNA IN
TRANSGENIC PLANTS.

ABSTRACT

5 A novel method of over expressing genes in
plants is provided. This method is based on the RNA
amplification properties of plus strand RNA viruses
of plants. A chimeric multicistronic gene is
constructed containing a plant promoter, viral
10 replication origins, a viral movement protein gene,
and one or more foreign genes under control of viral
subgenomic promoters. Plants containing one or more
of these recombinant RNA transcripts are inoculated
with helper virus. In the presence of helper virus
15 recombinant transcripts are replicated producing high
levels of foreign gene RNA.

Sequences are provided for the high level
expression of the enzyme chloramphenicol
acetyltransferase in tobacco plants by replicon RNA
20 amplification with helper viruses and movement
protein genes derived from the tobamovirus group.